

# **DRAFT**

## **PREVENTION OF SIGNIFICANT DETERIORATION PERMIT STATIONARY SOURCE PERMIT TO MODIFY AND OPERATE**

**This permit includes designated equipment to  
New Source Performance Standards (NSPS).**

This permit supercedes your permit dated February 22, 2002.

In compliance with the Federal Clean Air Act and the Commonwealth of Virginia  
Regulations for the Control and Abatement of Air Pollution,

Island Creek Coal Company  
P.O. Drawer L  
Oakwood, Virginia 24631  
Registration No. 10704  
AFS ID No. 51-027-00046

is authorized to modify and operate

a coal processing facility with a thermal dryer

located at

Skeggs, 3.2 miles south of Oakwood, on Route 624,  
Buchanan County, Virginia

in accordance with the Conditions of this permit.

Approved on                      DRAFT.

Robert G. Burnley  
Director

Permit consists of 11 pages.  
Permit Conditions 1 to 36.  
Source Testing Report Format.

PERMIT CONDITIONS - the regulatory reference or authority for each condition is listed in parentheses ( ) after each condition.

### **APPLICATION**

1. Except as specified in this permit, the permitted facility is to be modified and operated as represented in the permit application dated August 15, 2003, including amendment information dated September 8, and 9, 2003, March 25, April 7, June 7, and June 22, 2004. Any changes in the permit application specifications or any existing facilities which alter the impact of the facility on air quality may require a permit. Failure to obtain such a permit prior to construction may result in enforcement action.  
(9 VAC 5-50-390, 9 VAC 5-80-1210 and 9 VAC 5-80-1710)

### **PROCESS REQUIREMENTS**

2. **Equipment List** - Equipment to be modified at this facility consists of:
  - one McNally No. 8 Flow Dryer – Fluidized Bed thermal dryer equipped with two coal and oil fired Riley No. 3 burners rated at a maximum heat input capacity of 154 million Btu per hour (NSPS);
  - one rotary breaker (NSPS);
  - one crusher (NSPS);
  - one raw coal silo (NSPS);
  - one wet process plant including froth flotation, vacuum filtration and thickening (NSPS);
  - one raw coal cleanup hopper (NSPS);
  - two refuse bins (NSPS);
  - one rail car load-out (NSPS);
  - various belt conveyors (NSPS); and
  - coal and refuse stockpiles.(9 VAC 5-80-1100 and 9 VAC 5-80-1700 A)
3. **Emission Controls** - Particulate matter (PM), PM-10 and sulfur dioxide emissions from the thermal dryer shall be controlled by a wet venturi scrubber. The wet venturi scrubber shall be provided with adequate access for inspection. Carbon monoxide and nitrogen oxides emissions from the thermal dryer shall be controlled by good combustion control. Volatile organic compounds emissions from the thermal dryer shall be controlled by good engineering practice.  
(9 VAC 5-50-260 and 9 VAC 5-80-1800)
4. **Fugitive Emission Controls** - Fugitive emission controls shall include the following, or equivalent, as a minimum:

- a. Dust from material handling, crushers, screens, transfers, and load-outs, shall be controlled by wet suppression or the processing of adequately moist material, or equivalent (as approved by the DEQ).
- b. All material being stockpiled shall be kept adequately moist to control dust during storage and handling or covered at all times to minimize emissions.
- c. Dust from haul roads and traffic areas shall be controlled by the application of asphalt, water, suitable chemicals, or equivalent methods approved by the DEQ.
- d. Reasonable precautions shall be taken to prevent deposition of dirt on public roads and subsequent dust emissions. Dirt, product, or raw material spilled or tracked onto paved surfaces shall be promptly removed to prevent particulate matter from becoming airborne.
- e. Volatile organic compounds shall not be intentionally spilled, discarded to sewers, stored in open containers, or handled in any other manner that would result in evaporation beyond that consistent with air pollution control practices for minimizing emissions.

(9 VAC 5-50-260, 9 VAC 5-50-90 and 9 VAC 5-80-1800)

5. **Monitoring Devices** – The wet venturi scrubber shall be equipped with the following:

- a. A monitoring device for the measurement of the temperature of the gas stream at the exit of the thermal dryer on a continuous basis. The monitoring device is to be certified by the manufacturer to be accurate within  $\pm 3$  °F.
- b. A monitoring device for the continuous measurement of the pressure loss through the venturi constriction of the venturi scrubber. The monitoring device is to be certified by the manufacturer to be accurate within  $\pm 1$  inch water gauge.
- c. A monitoring device for the continuous measurement of the water supply pressure to the venturi scrubber. The monitoring device is to be certified by the manufacturer to be accurate within  $\pm 5$  percent of design water supply pressure. The pressure sensor or tap must be located close to the water discharge point.

Each monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be re-calibrated annually. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the thermal dryer is operating.

(9 VAC 5-80-1180, 9 VAC 5-50-20 C, 9 VAC 5-50-260 and 9 VAC 5-50-410)

6. **Monitoring Device Observation** - The monitoring devices used to continuously measure the thermal dryer and associated control system parameters shall be observed by the permittee with a frequency of not less than once per hour. The permittee shall keep a log of the observations or continuously record measurements from the monitoring devices.  
(9 VAC 5-50-50 H)

#### **OPERATING/EMISSION LIMITATIONS**

7. **Processing** - The processing of raw coal shall not exceed 3.5 million tons per year, calculated monthly as the sum of each consecutive 12-month period.  
(9 VAC 5-80-1180 and 9 VAC 5-80-1800)
8. **Processing** – The materials approved for use at the wet process plant are Tetra 944 frother and Nalco 9806 flocculant, or equivalent.  
(9 VAC 5-80-1180 and 9 VAC 5-80-1800)
9. **Fuel** – The approved fuels for the thermal dryer are pulverized bituminous coal and distillate oil. A change in the fuels may require a permit to modify and operate.  
(9 VAC 5-80-1180 and 9 VAC 5-80-1800)
10. **Fuel Specifications** – The coal and distillate oil burned in the thermal dryer shall meet the following specifications:

**COAL:**

The average sulfur content of the bituminous coal to be burned in the thermal dryer shall not exceed 1.0% by weight, calculated as the average of each consecutive 30-day period.

**DISTILLATE OIL** which meets American Society for Testing and Materials D396-78 specifications for numbers 1 or 2 fuel oil:

Maximum sulfur content per shipment: 0.5% by weight.

(9 VAC 5-80-1180 and 9 VAC 5-80-1800)

11. **Fuel Certification** – The permittee shall obtain a certification from the fuel supplier with each shipment of distillate oil. Each fuel certification shall include the following:
- a. The name of the fuel supplier;
  - b. A statement that the distillate oil complies with the ASTM specifications for numbers 1 or 2 fuel oil; and
  - c. The sulfur content of the distillate oil.
- (9 VAC 5-80-1100)

12. **Fuel Throughput** – The total amount of distillate oil combusted in the Riley burners shall not exceed 100,000 gallons per year, calculated monthly as the sum of each consecutive 12-month period.  
(9 VAC 5-80-1180 and 9 VAC 5-80-1800)
13. **Heat Input** – Heat input to the thermal dryer shall not exceed 110 million BTU per hour.  
(9 VAC 5-80-1180 and 9 VAC 5-80-1800)
14. **Hours of Operation** – The thermal dryer shall operate no more than 6,240 hours per year, calculated monthly as the sum of each consecutive 12-month period.  
(9 VAC 5-80-1180 and 9 VAC 5-80-1800)
15. **Venturi Pressure Drop** – The differential pressure drop across the wet venturi scrubber shall be a minimum of 31 inches water column.  
(9 VAC 5-80-1180 and 9 VAC 5-80-1800)
16. **Emission Limits** - Emissions from the operation of the thermal dryer shall not exceed the limits specified below:

Particulate Matter	0.025 gr/dscf	87.45 tons/yr
PM-10	0.019 gr/dscf	66.46 tons/yr
Sulfur Dioxide	0.63 lbs/MMBtu	216.22 tons/yr
Nitrogen Oxides (as NO <sub>2</sub> )	0.83 lbs/MMBtu	284.86 tons/yr
Carbon Monoxide	1.22 lbs/MMBtu	418.7 tons/yr
Volatile Organic Compounds	0.53 lbs/MMBtu	181.9 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits shall be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Condition numbers 3, 9, 10, 12 through 15, and 20.

(9 VAC 5-50-260, 9 VAC 5-80-1180, VAC 5-80-1800 and 9 VAC 5-80-1810)

17. **Emission Limits** - Emissions from the operation of the coal processing and conveying equipment, coal storage systems, and coal transfer and loading systems shall not exceed the limits specified below:

Particulate Matter	5.4 lb/hr	16.95 tons/yr
PM-10	0.9 lb/hr	3.35 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits shall be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Condition numbers 4, 7 and 19.

(9 VAC 5-50-260, 9 VAC 5-80-1180, VAC 5-80-1800 and 9 VAC 5-80-1810)

18. **Emission Limits** - Emissions from the operation of the wet process plant including dust control and freeze proofing shall not exceed the limits specified below:

Volatile Organic Compounds	3.21 lb/hr	9.33 tons/yr
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These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits shall be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Condition numbers 4, 7 and 8.

(9 VAC 5-50-260, 9 VAC 5-80-1180, VAC 5-80-1800 and 9 VAC 5-80-1810)

19. **Visible Emission Limit** - Visible emissions from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system shall not exceed 20 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).  
(9 VAC 5-50-260 and 9 VAC 5-50-410)
20. **Visible Emission Limit** - Visible emissions from the thermal dryer exhaust shall not exceed 20 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).  
(9 VAC 5-50-260 and 9 VAC 5-50-410)
21. **Requirements by Reference** - Except where this permit is more restrictive than the applicable requirement, the NSPS equipment as described in Condition 2 shall be operated in compliance with the requirements of 40 CFR 60, Subpart Y.  
(9 VAC 5-50-400 and 9 VAC 5-50-410)

## **RECORDS**

22. **On Site Records** - The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Director, Southwest Regional Office. These records shall include, but are not limited to:

- a. Annual tonnage of raw coal processed, calculated monthly as the sum of each consecutive 12-month period.
- b. Material Safety Data Sheet (MSDS) or product certification for each type of frother and flocculant used in the wet process plant.
- c. All fuel supplier certifications for oil shipments.
- d. Annual amount of distillate oil combusted in the thermal dryer, calculated monthly as the sum of each consecutive 12-month period.
- e. Hourly and annual amount of coal combusted in the thermal dryer. Hourly amount of coal combusted shall be calculated monthly by dividing the total amount of coal burned for the month by the total hours of thermal dryer operation for that month. Annual amount of coal combusted shall be calculated monthly as the sum of each consecutive 12-month period.
- f. Sulfur and heat content of coal combusted in the thermal dryer.
- g. Hourly heat input to the thermal dryer, calculated monthly by multiplying the average coal heat content for the month by the hourly average amount of coal combusted for that month.
- h. Annual hours of operation of the thermal dryer, calculated monthly as the sum of each consecutive 12-month period.
- i. The temperature of the gas stream at the exit of the thermal dryer; pressure loss through the venturi constriction of the wet venturi scrubber; and, the water supply pressure to the wet venturi scrubber. Each parameter shall be measured and recorded on an hourly basis.
- j. Scheduled and unscheduled maintenance, written operating procedures and operator training.
- k. Results of all performance tests.

These records shall be available for inspection by the DEQ and shall be current for the most recent five years.

(9 VAC 5-50-50 and 9 VAC 5-50-410)

### **CONTINUING COMPLIANCE DETERMINATION**

23. **Stack Tests** – The permittee shall conduct performance tests within one year from the date of this permit and once every two years thereafter and upon request by the DEQ for PM, SO<sub>2</sub>,

NO<sub>2</sub>, CO and VOC from the thermal dryer to demonstrate compliance with the emission limits contained in this permit. Tests shall be conducted and reported and data reduced as set forth in 9 VAC 5-50-30, and the test methods and procedures contained in each applicable section or subpart listed in 9 VAC 5-50-410. The details of the tests shall be arranged with the Director, Southwest Regional Office. Two copies of the test results shall be submitted to the Director, Southwest Regional Office within 45 days after test completion and shall conform to the test report format enclosed with this permit.

(9 VAC 5-50-30 G)

### **GENERAL CONDITIONS**

24. **Testing/Monitoring Ports** - The permitted facility shall be constructed so as to allow for emissions testing upon reasonable notice at any time, using appropriate methods. Test ports shall be provided when requested at the appropriate locations.

(9 VAC 5-50-30 F)

25. **Right of Entry** - The permittee shall allow authorized local, state, and federal representatives, upon the presentation of credentials:

- a. To enter upon the permittee's premises on which the facility is located or in which any records are required to be kept under the terms and conditions of this permit;
- b. To have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit or the State Air Pollution Control Board Regulations;
- c. To inspect at reasonable times any facility, equipment, or process subject to the terms and conditions of this permit or the State Air Pollution Control Board Regulations; and
- d. To sample or test at reasonable times.

For purposes of this condition, the time for inspection shall be deemed reasonable during regular business hours or whenever the facility is in operation. Nothing contained herein shall make an inspection time unreasonable during an emergency.

(9 VAC 5-170-130)

26. **Notification for Facility or Control Equipment Malfunction** - The permittee shall furnish notification to the Director, Southwest Regional Office of malfunctions of the affected facility or related air pollution control equipment that may cause excess emissions for more than one hour, by facsimile transmission, telephone or telegraph. Such notification shall be made as soon as practicable but no later than four daytime business hours after the malfunction is discovered. The permittee shall provide a written statement giving all pertinent facts, including the estimated duration of the breakdown, within two weeks of discovery of the malfunction. When the condition causing the failure or malfunction has



been corrected and the equipment is again in operation, the permittee shall notify the Director, Southwest Regional Office in writing.  
(9 VAC 5-20-180 C)

27. **Violation of Ambient Air Quality Standard** - The permittee shall, upon request of the DEQ, reduce the level of operation or shut down a facility, as necessary to avoid violating any primary ambient air quality standard and shall not return to normal operation until such time as the ambient air quality standard will not be violated.  
(9 VAC 5-20-180 I)

28. **Maintenance/Operating Procedures** - The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment, monitoring devices, and process equipment which affect such emissions:

- a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.
- b. Maintain an inventory of spare parts.
- c. Have available written operating procedures for equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.
- d. Train operators in the proper operation of all such equipment and familiarize the operators with the written operating procedures. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.

Records of maintenance and training shall be maintained on site for a period of five years and shall be made available to DEQ personnel upon request.  
(9 VAC 5-50-20 E)

29. **Permit Suspension/Revocation** - This permit may be suspended or revoked if the permittee:
- a. Knowingly makes material misstatements in the application for this permit or any amendments to it;
  - b. Fails to comply with the conditions of this permit;
  - c. Fails to comply with any emission standards applicable to the equipment listed in Condition 2;
  - d. Causes emissions from this facility which result in violations of, or interferes with the attainment and maintenance of, any ambient air quality standard;

- e. Fails to operate this facility in conformance with any applicable control strategy, including any emission standards or emission limitations, in the State Implementation Plan in effect on the date that the application for this permit is submitted;
- f. Fails to modify or operate this facility in accordance with the application for this permit or any amendments to it; or
- g. Allows the permit to become invalid.  
(9 VAC 5-80-1210)

30. **Change of Ownership** - In the case of a transfer of ownership of a stationary source, the new owner shall abide by any current permit issued to the previous owner. The new owner shall notify the Director, Southwest Regional Office of the change of ownership within 30 days of the transfer.  
(9 VAC 5-80-1240)

31. **Registration/Update** - Annual requirements to fulfill legal obligations to maintain current stationary source emissions data will necessitate a prompt response by the permittee to requests by the DEQ or the Board for information to include, as appropriate: process and production data; changes in control equipment; and operating schedules. Such requests for information from the DEQ will either be in writing or by personal contact. The availability of information submitted to the DEQ or the Board will be governed by applicable provisions of the Freedom of Information Act, §§ 2.1-340 through 2.1-348 of the Code of Virginia, § 10.1-1314 (addressing information provided to the Board) of the Code of Virginia, and 9 VAC 5-170-60 of the State Air Pollution Control Board Regulations. Information provided to federal officials is subject to appropriate federal law and regulations governing confidentiality of such information.  
(9 VAC 5-170-60 and 9 VAC 5-20-160)

32. **Permit Copy** - The permittee shall keep a copy of this permit on the premises of the facility to which it applies.  
(9 VAC 5-170-160)

### **STATE-ONLY ENFORCEABLE REQUIREMENTS**

The following terms and conditions (numbers 33 through 36) are included in this permit to implement the requirements of 9 VAC 5-40-130 et seq., 9 VAC 5-50-130 et seq., 9 VAC 5-60-200 et seq. and/or 9 VAC 5-60-300 et seq. and are enforceable only by the Virginia Air Pollution Control Board. Neither their inclusion in this permit nor any resulting public comment period make these terms federally enforceable.

33. **Emission Control** – Toxic pollutant emissions from the thermal dryer shall be controlled by a wet venturi scrubber. The wet venturi scrubber shall be provided with adequate access for inspection.

(9 VAC 5-60-320)

34. **Fuel Throughput** - The combustion of coal in the thermal dryer shall not exceed 3.77 tons per hour.

(9 VAC 5-60-320)

35. **Toxic Emission Limits** - Toxic pollutant emissions from the operation of the thermal dryer shall not exceed the limits specified below:

Hydrogen Chloride	0.8 lbs/hr	2.46 tons/yr
Hydrogen Fluoride	0.62 lbs/hr	1.92 tons/yr

These emissions are derived from the estimated emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Condition numbers 33 and 34.

(9 VAC 5-60-320)

36. **On Site Records** - The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this section of the permit. The content and format of such records shall be arranged with the Director, Southwest Regional Office. These records shall include, but are not limited to the hourly and annual amount of coal combusted in the thermal dryer. Hourly amount of coal combusted shall be calculated monthly by dividing the total amount of coal burned for the month by the total hours of thermal dryer operation for that month. Annual coal consumption shall be calculated monthly as the sum of each consecutive 12-month period.

(9 VAC 5-60-50)

## **SOURCE TESTING REPORT FORMAT**

### Cover

1. Plant name and location
2. Units tested at source (indicate Ref. No. used by source in permit or registration)
3. Tester; name, address and report date

### Certification

1. Signed by team leader / certified observer (include certification date)
- \* 2. Signed by reviewer

### Introduction

1. Test purpose
2. Test location, type of process
3. Test dates
- \* 4. Pollutants tested
5. Test methods used
6. Observers' names (industry and agency)
7. Any other important background information

### Summary of Results

1. Pollutant emission results / visible emissions summary
2. Input during test vs. rated capacity
3. Allowable emissions
- \* 4. Description of collected samples, to include audits when applicable
5. Discussion of errors, both real and apparent

### Source Operation

1. Description of process and control devices
2. Process and control equipment flow diagram
3. Process and control equipment data

### \* Sampling and Analysis Procedures

1. Sampling port location and dimensioned cross section
2. Sampling point description
3. Sampling train description
4. Brief description of sampling procedures with discussion of deviations from standard methods
5. Brief description of analytical procedures with discussion of deviation from standard methods

### Appendix

- \* 1. Process data and emission results example calculations
2. Raw field data
- \* 3. Laboratory reports
4. Raw production data
- \* 5. Calibration procedures and results
6. Project participants and titles
7. Related correspondence
8. Standard procedures

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\* Not applicable to visible emission evaluations.